

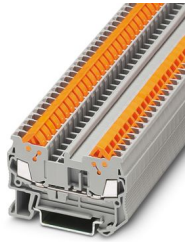
# QTC 1,5 - Feed-through terminal block



3205019

<https://www.phoenixcontact.com/sg/products/3205019>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 17.5 A, number of connections: 2, connection method: Quick connection, 1 level, Rated cross section: 1.5 mm<sup>2</sup>, cross section: 0.25 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- Compact design
- Tested for railway applications

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 3205019                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | 0170*                          |
| Product key                          | BE3111                         |
| Catalog page                         | Page 257 (C-1-2019)            |
| GTIN                                 | 4017918932411                  |
| Weight per piece (including packing) | 8.612 g                        |
| Weight per piece (excluding packing) | 7.44 g                         |
| Customs tariff number                | 85369010                       |
| Country of origin                    | CN                             |

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## Technical data

### Product properties

|                       |                             |
|-----------------------|-----------------------------|
| Product type          | Feed-through terminal block |
| Area of application   | Railway industry            |
|                       | Machine building            |
|                       | Plant engineering           |
|                       | Process industry            |
| Number of connections | 2                           |
| Number of rows        | 1                           |
| Potentials            | 1                           |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|  |                     |
|--|---------------------|
| Number of connections per level                      | 2                   |
| Frequency of connections with the same cross section | 100                 |
| Nominal cross section                                | 1.5 mm <sup>2</sup> |

#### 1 level

|   |   |
|---|---|
| Material wire insulation                | PVC / PE  |
| Connection in acc. with standard        | IEC 60947-7-1   |
| Conductor cross section rigid           | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Cross section AWG                       | 24 ... 16 (converted acc. to IEC)                         |
| Conductor cross section flexible        | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Conductor cross section, flexible [AWG] | 24 ... 16 (converted acc. to IEC)                         |
| Cross section, sensor conductors        | 0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup>             |
| Nominal current                         | 17.5 A  |
| Maximum load current                    | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross section) |
| Nominal voltage                         | 800 V   |
| Nominal cross section                   | 1.5 mm <sup>2</sup>                                       |

### Ex data

#### Rated data (ATEX/IECEx)

|                             |                        |
|-----------------------------|------------------------|
| Identification              | ⊕ II 2 GD Ex eb IIC Gb |
| Operating temperature range | -45 °C ... 90 °C       |
| Ex-certified accessories    | 3205161 D-QTC 1,5      |
|                             | 3206209 ATP-QTC        |

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|  |                                      |
|--|--------------------------------------|
|  | 1204517 SZF 1-0,6X3,5                |
|  | 3022276 CLIPFIX 35-5                 |
|  | 3022218 CLIPFIX 35                   |
| List of bridges                                    | Plug-in bridge / FBS 2-5 / 3030161   |
|  | Plug-in bridge / FBS 3-5 / 3030174   |
|  | Plug-in bridge / FBS 4-5 / 3030187   |
|  | Plug-in bridge / FBS 5-5 / 3030190   |
|  | Plug-in bridge / FBS 10-5 / 3030213  |
|  | Plug-in bridge / FBS 20-5 / 3030226  |
| Bridge data  | 16.5 A / 1.5 mm <sup>2</sup>         |
| Ex temperature increase                            | 40 K (18.6 A / 1.5 mm <sup>2</sup> ) |
| Rated voltage                                      | 550 V                                |
| for bridging with bridge                           | 550 V                                |
| - At bridging between non-adjacent terminal blocks | 352 V                                |
| - At cut-to-length bridging with cover             | 220 V                                |
| - At cut-to-length bridging with partition plate   | 275 V                                |
| Rated insulation voltage                           | 500 V                                |
| output   | (Permanent)                          |

## Ex level General

|                      |        |
|----------------------|--------|
| Rated current        | 16.5 A |
| Maximum load current | 16.5 A |
| Contact resistance   | 1 mΩ   |

## Ex connection data General

|  |  |
|--|--|
| Nominal cross section                                | 1.5 mm <sup>2</sup>                          |
| Rated cross section AWG                              | 16   |
| Connection capacity rigid                            | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG                              | 24 ... 16                                    |
| Connection capacity flexible                         | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG                              | 24 ... 16                                    |
| Frequency of connections with the same cross section | 100  |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 58.8 mm |
| Depth on NS 35/7,5 | 39.3 mm |
| Depth on NS 35/15  | 46.8 mm |

## Material specifications

|  |                 |
|--|-----------------|
| Color                                  | gray (RAL 7042) |
| Flammability rating according to UL 94 | V0              |
| Insulating material group              | I               |
| Insulating material                    | PA              |

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|   |             |
|---|-------------|
| Static insulating material application in cold                          | -60 °C      |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 130 °C      |
| Relative insulation material temperature index (Elec., UL 746 B)        | 130 °C      |
| Fire protection for rail vehicles (DIN EN 45545-2) R22                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R26                  | HL 1 - HL 3 |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 28 MJ/kg    |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed      |
| Specific optical density of smoke NFPA 130 (ASTM E 662)                 | passed      |
| Smoke gas toxicity NFPA 130 (SMP 800C)                                  | passed      |

## Cable/line

|                                |        |
|--------------------------------|--------|
| Wire diameter incl. insulation | ≤ 3 mm |
|--------------------------------|--------|

## Electrical tests

### Surge voltage test

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|  |                                |
|--|--------------------------------|
| Requirement temperature-rise test                | Increase in temperature ≤ 45 K |
| Result   | Test passed                    |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 kA                        |
| Result   | Test passed                    |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2 kV        |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

### Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 35       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

### Test for conductor damage and slackening

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|                                |   |
|--------------------------------|---|
| Rotation speed                 | 10 rpm  |
| Revolutions                    | 135   |
| Conductor cross section/weight | 0.25 mm <sup>2</sup> / 0.2 kg<br>1.5 mm <sup>2</sup> / 0.4 kg |
| Result                         | Test passed   |

## Environmental and real-life conditions

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |   |
|------------------------|---|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03                 |
| Spectrum               | Service life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| ASD level              | 1.857 (m/s <sup>2</sup> ) <sup>2</sup> /Hz          |
| Acceleration           | 0.8g  |
| Test duration per axis | 5 h   |
| Test directions        | X-, Y- and Z-axis                                   |
| Result                 | Test passed   |

### Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2008-03 |
| Pulse shape                    | Half-sine                           |
| Acceleration                   | 5g                                  |
| Shock duration                 | 30 ms                               |
| Number of shocks per direction | 3                                   |
| Test directions                | X-, Y- and Z-axis (pos. and neg.)   |
| Result                         | Test passed                         |

### Ambient conditions

|  |  |
|--|--|
| Ambient temperature (operation)          | -60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.) |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C)  |
| Ambient temperature (assembly)           | -5 °C ... 70 °C  |
| Ambient temperature (actuation)          | -5 °C ... 70 °C  |
| Permissible humidity (operation)         | 20 % ... 90 %  |
| Permissible humidity (storage/transport) | 30 % ... 70 %  |

## Standards and regulations

|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|----------------------------------|---------------|

## Mounting

|               |                       |
|---------------|-----------------------|
| Mounting type | NS 35/7,5<br>NS 35/15 |
|---------------|-----------------------|

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## Drawings

Circuit diagram



# QTC 1,5 - Feed-through terminal block





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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sg/products/3205019>

|  <b>CSA</b><br>Approval ID: 2030668 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B  | 600 V                 | 10 A                  | 24 - 16           | -                           |
| Use group C  | 600 V                 | 10 A                  | 24 - 16           | -                           |

|  <b>EAC</b><br>Approval ID: RU C-DE.BL08.B.00539 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|


|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B  | 600 V                 | 10 A                  | 24 - 16           | -                           |
| Use group C  | 600 V                 | 10 A                  | 24 - 16           | -                           |

|  <b>LR</b><br>Approval ID: LR2002130TA |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>ClassNK</b><br>Approval ID: 09 ME 139 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

| <b>ABS</b><br>Approval ID: 22-2196825-PDA |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

| <b>DNV</b><br>Approval ID: TAE000014H |  |  |  |  |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|


|  <b>IECEx</b><br>Approval ID: IECExKIWA19.0011U |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|  | 550 V                 | 16.5 A                | -                 | 0.25 - 1.5                  |


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|  <b>ATEX</b><br>Approval ID: KIWA19ATEX0019U |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Type examination certificate  | 550 V                 | 16.5 A                | -                 | 0.25 - 1.5                  |

|  <b>CCC</b><br>Approval ID: 2020322313000625 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>UKCA-EX</b><br>Approval ID: CSAE 22UKEX1429U |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250101 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000897 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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